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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/506,487 | 09/02/2004 | Kazuhisa Senda | 121036-0070 | 2843 |

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| EXAMINER | |
|---|---|
| O HERN, BRENT T | |
| ART UNIT | PAPER NUMBER |
| 1772 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 04/17/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/506,487 | SENDA ET AL. | |
| | Examiner | Art Unit | |
| | Brent T. O'Hern | 1772 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### Claims

**1.** Claims 1-15 are pending.

## WITHDRAWN OBJECTIONS

**2.** The objection to the Specification of record in the Office Action mailed 8 December 2006, page 3, paragraph 8, has been withdrawn due to Applicant's amended title in the Paper filed 8 March 2007.

## WITHDRAWN REJECTIONS

**3.** The 35 USC 112 rejections of claims 1-15 of record in the Office Action mailed 8 December 2006, page 4, paragraph 9, have been withdrawn due to Applicant's amendments in the Paper filed 8 March 2007.

**4.** The 35 USC 103(a) rejections of claims 1-3, 5-6, 8-9 and 14-15 as being unpatentable over Farnam (US 4,463,704) in view of Kusakabe et al. (US 5,986,014) of record in the Office Action mailed 8 December 2006, page 4, paragraph 10, have been withdrawn due to Applicant's amendments in the Paper filed 8 March 2007.

**5.** The 35 USC 103(a) rejections of claims 4 and 10 as being unpatentable over Farnam (US 4,463,704) in view of Kusakabe et al. (US 5,986,014) and DeCato et al. (US 6,444,740) of record in the Office Action mailed 8 December 2006, page 8, paragraph 11, have been withdrawn due to Applicant's amendments in the Paper filed 8 March 2007.

**6.** The 35 USC 103(a) rejections of claims 7 and 11-13 as being unpatentable over Farnam (US 4,463,704) in view of Kusakabe et al. (US 5,986,014), DeCato et al. (6,444,740) and Kawamura (US 5,684,110) of record in the Office Action mailed 8

December 2006, page 9, paragraph 12, have been withdrawn due to Applicant's amendments in the Paper filed 8 March 2007.

## NEW REJECTIONS

### *35 U.S.C. 103(a) Rejections*

**7.** Claims 1-3, 5-6, 8-9 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnam (US 4,463,704) in view of Kusakabe et al. (US 5,986,014).

Regarding claims 1 and 15 Farnam ('704) teaches a gasket *(Abstract, l. 2)*, which comprises a cured product layer *(Abs., l. 17 "cure the coating")* and a metal plate or resin plate *(col. 3, l. 26 "polymeric material", a resin)*, the cured product layer being provided on at least one surface of the resin plate *(col. 8, ll. 46-48 "applied to top and bottom surfaces" and Abs., ll. 4-5 and 17),* however, Farnam ('704) fails to expressly disclose a composition comprising an acrylic polymer having at least one alkenyl group.

However, Kusakabe ('014) teaches a composition comprising an acrylic polymer having at least one alkenyl group *(See col. 11, ll. 43-45, col. 5, l. 59 to col. 6, l. 33.)* for the purpose of providing good depth curability without foaming for gasket applications *(col. 14, ll. 47-50 and 61-63)*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicants' invention was made to substitute the composition of Farnam ('704) with the well known acrylic polymer as described above in order to provide gaskets with good depth curability without foaming as taught by Kusakabe ('014).

The phrase **"capable of undergoing hydrosilylation reaction by copolymerization of an acrylic acid ester monomer and a compound as a second monomer represented by the general formula:**

$CH_2=CR^1-R^4-CR^1=CH_2$

**wherein $R^1$ is a hydrogen atom or a methyl group and $R^4$ is an alkylene group of $C_2$-$C_6$**

**(B) a hydrosilyl group-containing compound; and**

**(C) a hydrosilylation catalyst as essential components"** in claim 1, lines 3-10 and **"wherein the second monomer reacts at a final stage of the polymerization reaction or after completion of the reaction of the acrylic acid ester monomer in the synthesis of acrylic polymers by living radical polymerization"** in claim 15, ll. 1-4 are **process limitations** in a product claims and hence not given any patentable weight since patentability of a product does not depend on its method of production *(see MPEP § 2173.05(p))*.

Regarding claim 2, Farnam ('704) teaches the gasket discussed above, however, fails to expressly disclose a gasket wherein the component of the composition is a liquid acrylic polymer having a number average molecular weight Mn of 500 or more and a molecular weight distribution (Mw/Mn) of 1.8 or less.

However, Kusakabe ('014) teaches a gasket wherein the component of the composition is a liquid acrylic polymer having a number average molecular weight Mn of 500 or more *(See col. 11, ll. 49-50 wherein the Mw is from 500 to 50,000 and col. 3 ll. 64-65 wherein Mw/Mn = 1.1 – 1.5, thus making Mn from 333 to 45,455.)* and a molecular weight distribution (Mw/Mn) of 1.8 or less *(col. 3, ll. 64-65)* for the purpose of providing sufficient physical properties and not too viscous *(col. 11, ll. 52-57)*.

Therefore it would have been obvious to one having ordinary skill in the art at the time applicants' invention was made to substitute Farnam ('704) with the well known

acrylic polymer with Mn and Mw/Mn as taught by Kusakabe ('014) in order to provide a polymer that has sufficient physical properties and not too viscous.

Regarding claim 3, Farnam ('704) teaches a gasket wherein the cured product layer has a film thickness of 1-500 μm *(col. 3, ll. 44-47 "any desired thickness" and col. 9, ll. 18-21, 0.0005 – 0.005 in. which equals 12.7 – 127 μm)*.

Regarding claim 5, Farnam ('704) teaches a gasket wherein the composition is directly applied to an adhesive-coated metal plate or resin plate *(col. 8, ll. 46-48 "adhesive coatings" and "applied to the top and bottom surfaces of the gasket part" and Abs., ll. 4-5 "coated with a liquid dispersion of polymer or polymers")* and cured *(Abs., l. 17, "cure the coating")*.

Regarding claims 6, 8 and 9, Farnam ('704) teaches a gasket which comprises at least one of an automobile engine cylinder head gasket, an engine oil pan gasket and an engine intake-exhaust manifold gasket *(col. 1, ll. 30-35 "pan gasket")*.

Regarding claim 14, Farnam ('704) teaches a gasket the gasket discussed above, however, fails to expressly disclose wherein the second monomer is one of 1,5-hexadiene, 1,7-octadiene and 1,9-decadiene.

However, Kusakabe ('014) teaches wherein the second monomer is one of 1,5-hexadiene, 1,7-octadiene and 1,9-decadiene *(col. 12, ll. 56-60)* for the purpose of providing good depth curability without foaming *(col. 14, ll. 47-50)*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicants' invention was made to substitute the composition of Farnam ('704) with the well known monomer as described above as taught by Kusakabe ('014) in order to provide gaskets with good depth curability without foaming.

**8.** Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnam (US 4,463,704) in view of Kusakabe et al. (US 5,986,014) and DeCato et al. (US 6,444,740).

Regarding claim 4, Farnam ('704) and Kusakabe ('014) teach the gasket as described above, however, fail to expressly disclose a gasket wherein the cured product layer has a surface hardness of 45 or less. However, DeCato ('740) teaches the cured product layer's surface hardness can vary depending on the additives *(col. 5, ll. 46-51)*. Furthermore, DeCato ('740) teaches the claimed surface hardness of 45 or less *(col. 15, Table 7a, "Comp. 5")*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicants' invention was made to modify the cured product of surface hardness of Farnam ('704) and Kusakabe ('014) since DeCato ('740) teaches that silicone compositions include a plasticizer when it is desirable for the specific surface hardness of the cured product layer depending on the desired surface hardness. Furthermore, DeCato ('740) teaches the claimed surface hardness of the cured product layer of 45 or less.

Regarding claim 10, Farnam ('704) teaches a gasket which comprises at least one of an automobile engine cylinder head gasket, an engine oil pan gasket and an engine intake-exhaust manifold gasket *(col. 1, ll. 30-35 "pan gasket")*.

**9.** Claims 7 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnam (US 4,463,704) in view of Kusakabe et al. (US 5,986,014), DeCato et al. (6,444,740) and Kawamura (US 5,684,110).

Farnam ('704), Kusakabe ('014) and DeCato ('740) teach the gasket as described above. However, they fail to expressly disclose a gasket wherein the cured product is provided on a resin plate that has a softening point of 100 °C or more.

However, Kawamura ('110) teaches resins that have a softening point of 100 °C or more *(col. 6, ll. 52-55 "softening point from 5 °C to 200 °C")* for the purpose of providing a gasket to undergo a very slow cure *(col. 6, ll. 3-4)* for having acceptable storage stability *(col. 6, ll. 41-42)*.

Therefore, it would have been obvious to one having ordinary skill in the art at the time applicants' invention was made to provide a resin plate of Farnam ('704), Kusakabe ('014) and DeCato ('740) with a softening point of 100 °C or more as taught by Kawamura ('110) in order to provide a gasket having acceptable storage stability as described above.

## ANSWERS TO APPLICANT'S ARGUMENTS

**10.** In response to Applicant's argument *(p. 6, para. 1 to p. 10, para. 6 of Applicant's Paper filed 8 March 2007)* that Applicant's amended independent claim #1 distinguishes the resin as taught Kusakabe ('014), it is noted that after close analysis of the claim that said polymer with $R^4$ is not a product limitation but rather a process limitation and hence, as discussed above, not given any patentable weight. Thus, Applicant's arguments are moot.

**11.** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent T. O'Hern whose telephone number is (571) 272-0496. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-2172. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BTO

Brent T O'Hern
Examiner
Art Unit 1772
April 9, 2007

NASSER AHMAD
PRIMARY EXAMINER
4/12/07